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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/816,312

03/31/2004

Weimin Tchen

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05/01/2007

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EXAMINER

WANG, ALBERT C

ART UNIT

PAPER NUMBER

2115

MAIL DATE

DELIVERY MODE

05/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/816,312	<b>Applicant(s)</b> TCHEN ET AL.	
	<b>Examiner</b> Albert Wang	<b>Art Unit</b> 2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This Office action is responsive to the amendment, after non-final, filed 5 February 2007.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chawla et al., U.S. Patent No. 6,442,067 (hereinafter "Chawla"), in view of Chen et al., U.S. Patent No. 2005/0125650 (hereinafter "Chen").

As per claim 1, Chawla teaches in a processing unit including nonvolatile memory for storing executable code, the nonvolatile memory comprising a vital region for storing vital code and a region for storing less vital code (figs. 2 & 3, ROM 60; col. 6; lines 39-63, active image area and inactive image area), an apparatus for executing an update program for managing updates to the vital region of the nonvolatile memory with update code, the apparatus comprising:

a processor (col. 6, lines 23-34, processor 58) programmed for

performing a write test by writing test code into the less vital region to simulate an actual update to the vital region (col. 7, lines 17-25), and

performing an actual write of the update code into the vital region if the write test is successful (col. 7, lines 26-31).

Chawla does not express teach details of verifying test status and data of each block when writing code into multiple blocks in the nonvolatile memory. Chen teaches a processing unit including nonvolatile memory (par. 0046). Chen teaches confirming each segment when writing

Art Unit: 2115

it would have been obvious to one of ordinary skill in the art that Chen's piecemeal writing method may be applied to Chawla's apparatus. A motivation for such piecemeal writing is to minimize impact on regular operations (pars. 0007 & 0077).

As per claim 2, Chen teaches comparing the version number of the update code and the version number of the nonvolatile memory for a given region, and executing the update program only if the version number of the update code is greater than the nonvolatile memory code version number (par. 0073).

As per claim 3, Chawla's vital code inherently stores the version number. Chen teaches a metadata segment within an image to store the version number (pars. 0059 & 0063) and teaches retrieving the version number from the nonvolatile memory (par. 0073).

As per claim 4, Chawla teaches writing the update code, which inherently includes the version number, into that region of nonvolatile memory if the write test is successful (col. 7, lines 17-31).

As per claim 5, Chen teaches terminating the update without performing any write operations if the version number of the update code is less than or equal to the nonvolatile memory version number for each vital region (par. 0073).

As per claim 6, Chawla teaches querying a user whether the nonvolatile version number should be downgraded (col. 7, lines 41-52).

As per claim 7, Chen teaches disparate regions of nonvolatile memory (pars. 0034 & 0077).

As per claim 8, Chen teaches disparate regions of nonvolatile memory (pars. 0034 & 0077).

Art Unit: 2115

As per claim 9, Chen teaches disparate regions of nonvolatile memory (pars. 0034 & 0077).

As per claim 10, Chawla teaches the test code is equivalent to the update code (par. 7, lines 26-31).

As per claim 11, Chawla teaches a host bus adapter (HBA) for implementing upper layer protocols (ULPs) (col. 5, lines 56-65).

As per claim 12, Chawla teaches an Internet Small Computer System Interface (iSCSI) or a fibre channel controller circuit (col. 5, lines 56-65).

As per claim 13, Chawla teaches a host computer comprising the HBA (col. 5, lines 35-55).

As per claim 14, Chawla teaches a storage area network (SAN), wherein an iSCSI or a fibre channel network is coupled to the iSCSI or fibre channel controller circuit and one or more storage devices are coupled to the iSCSI or fibre channel network (col. 5, lines 35-55).

As per claims 15-28, since Chawla/Chen teaches the apparatus of claims 1-14, Chawla/Chen teaches the claimed computer program.

As per claims 29-38, since Chawla/Chen teaches the apparatus of claims 1-14, Chawla/Chen teaches the claimed computer method.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert Wang whose telephone number is 571-272-3669. The examiner can normally be reached on M-F (9:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/816,312

Page 6

Art Unit: 2115

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A handwritten signature in black ink, appearing to read 'Chun Cao', located on the right side of the page.

**CHUN CAO**  
**PRIMARY EXAMINER**